

**Amendment to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A method for evaluating whether an implantable material will allow modified living bacteria to pass through the implantable material or around the implantable material or into the implantable material comprising:

- a) providing living bacteria which are modified to produce a first detectable signal;
- b) placing the modified living bacteria on a first side of the implantable material being evaluated; and
- c) detecting whether the first signal is present on a second side of the implantable material or within the implantable material;

where absence of the first signal on the second side of the implantable material or within the implantable material indicates that the modified living bacteria have not passed through or around the implantable material and where presence of the first signal on the second side of the implantable material or within the implantable material indicates that the modified living bacteria have passed through or around the implantable material; [and]

where the implantable material is non-living; and

where the modified living bacteria are modified to incorporate a functional green fluorescent protein.

2. (previously presented) The method of claim 1, additionally comprising quantifying the amount of modified living bacteria that will pass through the implantable material or into the implantable material by quantifying the amount of the first signal on the second side of the implantable material;

where increasing amounts of the first signal on the second side of the implantable material or within the implantable material indicates increasing amounts of modified living bacteria that will pass through the implantable material or into the implantable material.

3. (previously presented) The method of claim 1, where the modified living bacteria are modified to produce a second detectable signal, and where the method additionally

comprises detecting whether the second signal is present on the second side of the implantable material or within the implantable material;

where absence of the second signal on the second side of the implantable material or within the implantable material indicates that the modified living bacteria have not passed through or around the implantable material and where presence of the second signal on the second side of the implantable material or within the implantable material indicates that the modified living bacteria have passed through or around the implantable material.

4. (original) The method of claim 1, where the first signal is light emission in the visible spectrum.

5. (original) The method of claim 3, where the second signal is light emission in the visible spectrum.

6. (canceled)

7. (previously presented) The method of claim 1, where the modified living bacteria are modified to incorporate a functional luciferase.

8. (previously presented) The method of claim 1, where the modified living bacteria are modified to incorporate both a functional green fluorescent protein and a functional luciferase.

9. (previously presented) The method of claim 1, where placing the modified living bacteria on a first side of the implantable material being evaluated comprises placing the modified living bacteria in the center of a hollowed out, extracted natural tooth where the root end of the tooth is sealed with the implantable material, and then placing the root end of the tooth in a test medium; and

where detecting whether the first signal is present on a second side of the implantable material or within the implantable material comprises detecting the first signal in the test medium or within the implantable material.

10. (previously presented) The method of claim 3, where placing the modified living bacteria on a first side of the implantable material being evaluated comprises placing the

modified living bacteria in the center of a hollowed out, extracted natural tooth where the root end of the tooth is sealed with the implantable material, and then placing the root end of the tooth in a test medium; and

where detecting whether the first signal is present on a second side of the implantable material or within the implantable material comprises detecting the first signal in the test medium or within the implantable material.

11. (previously presented) The method of claim 1, where the modified living bacteria provided are additionally modified to be grown selectively.

12. (previously presented) The method of claim 11, where the modified living bacteria grow selectively due to antibiotic resistance.

13. through 32. (canceled)

33. (new) A method for evaluating whether an implantable material will allow modified living bacteria to pass through the implantable material or around the implantable material or into the implantable material comprising:

- a) providing living bacteria which are modified to produce a first detectable signal;
- b) placing the modified living bacteria on a first side of the implantable material being evaluated; and
- c) detecting whether the first signal is present on a second side of the implantable material or within the implantable material;

where absence of the first signal on the second side of the implantable material or within the implantable material indicates that the modified living bacteria have not passed through or around the implantable material and where presence of the first signal on the second side of the implantable material or within the implantable material indicates that the modified living bacteria have passed through or around the implantable material;

where the implantable material is non-living;

where the modified living bacteria are modified to produce a second detectable signal, and where the method additionally comprises detecting whether the second signal is present on the second side of the implantable material or within the implantable material; and

where absence of the second signal on the second side of the implantable material or within the implantable material indicates that the modified living bacteria have not passed through or around the implantable material and where presence of the second signal on the second side of the implantable material or within the implantable material indicates that the modified living bacteria have passed through or around the implantable material.

34. (new) The method of claim 33, additionally comprising quantifying the amount of modified living bacteria that will pass through the implantable material or into the implantable material by quantifying the amount of the first signal on the second side of the implantable material;

where increasing amounts of the first signal on the second side of the implantable material or within the implantable material indicates increasing amounts of modified living bacteria that will pass through the implantable material or into the implantable material.

35. (new) The method of claim 33, where the first signal is light emission in the visible spectrum.

36. (new) The method of claim 33, where the second signal is light emission in the visible spectrum.

37. (new) The method of claim 33, where the modified living bacteria are modified to incorporate a functional green fluorescent protein.

38. (new) The method of claim 33, where the modified living bacteria are modified to incorporate a functional luciferase.

39. (new) The method of claim 33, where the modified living bacteria are modified to incorporate both a functional green fluorescent protein and a functional luciferase.

40. (new) The method of claim 33, where placing the modified living bacteria on a first side of the implantable material being evaluated comprises placing the modified living

bacteria in the center of a hollowed out, extracted natural tooth where the root end of the tooth is sealed with the implantable material, and then placing the root end of the tooth in a test medium; and

where detecting whether the first signal is present on a second side of the implantable material or within the implantable material comprises detecting the first signal in the test medium or within the implantable material.

41. (new) The method of claim 33, where the modified living bacteria provided are additionally modified to be grown selectively.

42. (new) The method of claim 34, where the modified living bacteria grow selectively due to antibiotic resistance.

43. (new) A method for evaluating whether an implantable material will allow modified living bacteria to pass through the implantable material or around the implantable material or into the implantable material comprising:

- a) providing living bacteria which are modified to produce a first detectable signal;
- b) placing the modified living bacteria on a first side of the implantable material being evaluated; and
- c) detecting whether the first signal is present on a second side of the implantable material or within the implantable material;

where absence of the first signal on the second side of the implantable material or within the implantable material indicates that the modified living bacteria have not passed through or around the implantable material and where presence of the first signal on the second side of the implantable material or within the implantable material indicates that the modified living bacteria have passed through or around the implantable material;

where the implantable material is non-living;

where placing the modified living bacteria on a first side of the implantable material being evaluated comprises placing the modified living bacteria in the center of a hollowed out,

extracted natural tooth where the root end of the tooth is sealed with the implantable material, and then placing the root end of the tooth in a test medium; and

where detecting whether the first signal is present on a second side of the implantable material or within the implantable material comprises detecting the first signal in the test medium or within the implantable material.

44. (new) The method of claim 43, additionally comprising quantifying the amount of modified living bacteria that will pass through the implantable material or into the implantable material by quantifying the amount of the first signal on the second side of the implantable material;

where increasing amounts of the first signal on the second side of the implantable material or within the implantable material indicates increasing amounts of modified living bacteria that will pass through the implantable material or into the implantable material.

45. (new) The method of claim 43, where the modified living bacteria are modified to produce a second detectable signal, and where the method additionally comprises detecting whether the second signal is present on the second side of the implantable material or within the implantable material;

where absence of the second signal on the second side of the implantable material or within the implantable material indicates that the modified living bacteria have not passed through or around the implantable material and where presence of the second signal on the second side of the implantable material or within the implantable material indicates that the modified living bacteria have passed through or around the implantable material.

46. (new) The method of claim 43, where the first signal is light emission in the visible spectrum.

47. (new) The method of claim 46, where the second signal is light emission in the visible spectrum.

48. (new) The method of claim 43, where the modified living bacteria are modified to incorporate a functional green fluorescent protein.

49. (new) The method of claim 43, where the modified living bacteria are modified to incorporate a functional luciferase.

50. (new) The method of claim 43, where the modified living bacteria are modified to incorporate both a functional green fluorescent protein and a functional luciferase.

51. (new) The method of claim 43, where the modified living bacteria provided are additionally modified to be grown selectively.

52. (new) The method of claim 51, where the modified living bacteria grow selectively due to antibiotic resistance.

53. (new) A method for evaluating whether an implantable material will allow modified living bacteria to pass through the implantable material or around the implantable material or into the implantable material comprising:

- a) providing living bacteria which are modified to produce a first detectable signal;
- b) placing the modified living bacteria on a first side of the implantable material being evaluated; and
- c) detecting whether the first signal is present on a second side of the implantable material or within the implantable material;

where absence of the first signal on the second side of the implantable material or within the implantable material indicates that the modified living bacteria have not passed through or around the implantable material and where presence of the first signal on the second side of the implantable material or within the implantable material indicates that the modified living bacteria have passed through or around the implantable material;

where the implantable material is non-living;

where the modified living bacteria provided are additionally modified to be grown selectively due to antibiotic resistance.

54. (new) The method of claim 53, additionally comprising quantifying the amount of modified living bacteria that will pass through the implantable material or into the implantable

material by quantifying the amount of the first signal on the second side of the implantable material;

where increasing amounts of the first signal on the second side of the implantable material or within the implantable material indicates increasing amounts of modified living bacteria that will pass through the implantable material or into the implantable material.

55. (new) The method of claim 53, where the modified living bacteria are modified to produce a second detectable signal, and where the method additionally comprises detecting whether the second signal is present on the second side of the implantable material or within the implantable material;

where absence of the second signal on the second side of the implantable material or within the implantable material indicates that the modified living bacteria have not passed through or around the implantable material and where presence of the second signal on the second side of the implantable material or within the implantable material indicates that the modified living bacteria have passed through or around the implantable material.

56. (new) The method of claim 53, where the first signal is light emission in the visible spectrum.

57. (new) The method of claim 55, where the second signal is light emission in the visible spectrum.

58. (new) The method of claim 53, where the modified living bacteria are modified to incorporate a functional green fluorescent protein.

59. (new) The method of claim 53, where the modified living bacteria are modified to incorporate a functional luciferase.

60. (new) The method of claim 53, where the modified living bacteria are modified to incorporate both a functional green fluorescent protein and a functional luciferase.

61. (new) The method of claim 53, where placing the modified living bacteria on a first side of the implantable material being evaluated comprises placing the modified living bacteria in the center of a hollowed out, extracted natural tooth where the root end of the tooth



is sealed with the implantable material, and then placing the root end of the tooth in a test medium; and

where detecting whether the first signal is present on a second side of the implantable material or within the implantable material comprises detecting the first signal in the test medium or within the implantable material.

62. (new) The method of claim 55, where placing the modified living bacteria on a first side of the implantable material being evaluated comprises placing the modified living bacteria in the center of a hollowed out, extracted natural tooth where the root end of the tooth is sealed with the implantable material, and then placing the root end of the tooth in a test medium; and

where detecting whether the first signal is present on a second side of the implantable material or within the implantable material comprises detecting the first signal in the test medium or within the implantable material.